



Patents

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

SHANXIANG SHEN

Appln. No.: 10/803246

Filed: March 18, 2004

Title: USING COMPLEMENT COMPONENT
C1Q DERIVED MOLECULES AS
TRACERS FOR FLUORESCENCE
POLARIZATION ASSAYS

Group Art Unit: TBA

Examiner: TBA

Atty Docket No. 141938.00000

Customer ID 25207

TRANSMITTAL LETTER

Mail Stop Patent Application
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Enclosed for filing in the above case are the following documents:

- Information Disclosure Statement
- Form PTO/SB08B
- Copies of thirty-one (31) cited References
- Signed Declaration and Power of Attorney
- Return receipt postcard

Please date stamp and return the postcard to the undersigned.

Respectfully submitted,
POWELL, GOLDSTEIN, FRAZER & MURPHY LLP

Bernard Rhee
Reg. No. 48,816

7th Floor
1001 Pennsylvania Avenue, N.W.
Washington, D.C. 20004
202-624-7304
brhee@pgfm.com

I hereby certify that this correspondence is being deposited with the United States Postal Service as ~~first class~~ ^{express} mail in an envelope addressed to: Mail Stop Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on 4/1/2004

Pat Saylor



Patents

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

SHANXIANG SHEN

Appln. No.: 10/803246

Filed: March 18, 2004

Title: USING COMPLEMENT COMPONENT
C1Q DERIVED MOLECULES AS
TRACERS FOR FLUORESCENCE
POLARIZATION ASSAYS

Group Art Unit: TBA

Examiner: TBA

Atty Docket No. 141938.00000

Customer ID 25207

INFORMATION DISCLOSURE STATEMENT

Mail Stop Patent Application
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The citation of information on the attached Form PTO/SB/08B, Information Disclosure Statement by Applicant, is made pursuant to 37 CFR 1.56 and 1.97. A copy of each of the cited foreign references are enclosed.

The citation of this information does not constitute either an admission of priority or a waiver of any right applicant may have under applicable statutes, Rules of Practice in patent cases, or otherwise.

Respectfully submitted,
POWELL, GOLDSTEIN, FRAZER & MURPHY LLP

Bernard Rhee
Reg. No. 48,816

7th Floor
1001 Pennsylvania Avenue, N.W.
Washington, D.C. 20004
202-624-7304
brhee@pgfm.com

APR 01 2004



PTO/SB/08B (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)		Complete if Known	
		Application Number	10/803246
		Filing Date	March 18, 2004
		First Named Inventor	Shanxiang Shen
		Art Unit	TBA
		Examiner Name	TBA
Sheet 1	of 4	Attorney Docket Number	141938.00000

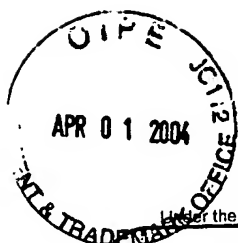
NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		ARYA S., et al (1994). "Mapping of amino acid residues in the C mu 3 domain of mouse IgM important in macromolecular assembly and complement-dependent cytolysis." J. Immunol 152(3):1206-12 [Abstract]	
		BUGHIO, Masreen I, et al. (1999). "Use of Recombinant Flagellin Protein as a Tracer Antigen in a Fluorescence Polarization Assay for Diagnosis of Leptospirosis." Clinical and Diagnostic Laboratory Immunology, 6(4): 599-605.	
		BURKE, TJ, et al (2003). "Development and application of fluorescence polarization assays in drug discovery." Comb Chem High Throughput Screen 6(3):183-94 [Abstract]	
		CHECOVICH, WJ, et al (1995). "Fluorescence polarization--a new tool for cell and molecular biology." Nature, 375(6528):254-6	
		CHEN, FH, et al (1997). "Domain-switched mouseo IgM/IgG2b hybrids indicate individual roles for C mu 2. C mu 3. and C mu 4 domains in the regulation of the interaction of IgM with complement C1q." J. Immunol 159(7): 3354-63	
		DUNCAN, AR, et al (1988). "The binding site for C1q on IgG." Nature, 332(6166):738-40	
		EGGELING, Christian, et al (2003). "Highly sensitive fluorescence detection technology current available for HTS." Drug Discovery Today 8(14):632-641.	

Examiner Signature	Date Considered
--------------------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



PTO/SB/08B (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Complete if Known

Application Number	10/803246
Filing Date	March 18, 2004
First Named Inventor	Shanxiang Shen
Art Unit	TBA
Examiner Name	TBA
Attorney Docket Number	141938.00000

Sheet	2	of	4
-------	---	----	---

NON PATENT LITERATURE DOCUMENTS

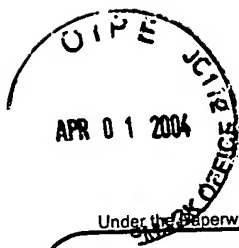
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		EREMIN, SA, et al. (2003). "Fluorescence polarization immunoassays for pesticides." Comb Chem High Throughput Screen 6(3):257-66 [Abstract]	
		GOMEZ-Hens, A, et al. (2003). "Stopped-flow fluorescence polarization immunoassay." Comb Chem High Throughput Screen 6(3):177-82	
		HARAYAMA, S (1998). "Artificial evolution by DNA shuffling." Tibtech 16:76-82	
		HONG, JY, et al (2002). "Development of One-Step Fluorescence Polarization immunoassay for Progesterone." Biol. Pharm. Bull. 25(10):1258-1262	
		JAMESON, DM, et al. (2003). "Fluorescence Polarization: Past, Present and Future." Combinatorial Chemistry & High Throughput Screening 6:167-176	
		JOHNSON, DK (2003). "Fluorescence polarization immunoassays for metal ions." Comb. Chem High Throughput Screen 6(3):245-55	
		JOLLEY, ME, et al (2003). "The use of fluorescence polarization assays for the detection of infectious diseases." Comb. Chem High Throughput Screen, 6(3):235-44 [Abstract]	
		KISHORE, U, et al. (2003). "Modular Organization of the Carboxyl-Terminal, Globular Head Region of Human C1q A, B, and C Chains." Journal of Immunology, 171:812-820.	
		KISHORE, U, et al. (2002). "Recent Progress in the Understanding of the Structure-Function Relationships of the Globular Head Regions of C1q." Immunobiology, 205:355-364	
		KISHORE, U, et al (1998). "Functional characterization of a recombinant form of the C-terminal globular head region of the B-chain of human serum complement protein, C1q." Biochem J 333:27-32	

Examiner
SignatureDate
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



PTO/SB/08B (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)		Complete if Known	
		Application Number	10/803246
		Filing Date	March 18, 2004
		First Named Inventor	Shanxiang Shen
		Art Unit	TBA
		Examiner Name	TBA
Sheet 3 of 4	Attorney Docket Number	141938.00000	

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		KISHORE, Uday, et al. (2001). A recombinant homotrimer, composed of the helical neck region of human surfactant protein D and C1q B chain globular domain, is an inhibitor of the classical complement pathway. J. Immunology, 166:559-565.	
		KOJOUHAROVA, MS, et al. (2003). "Localization of ligand-binding sites on human C1q globular head region using recombinant globular head fragments and single chain antibodies Biochimica et Biophysica Acta, 1652:64-74.	
		KOLKMAN, JA, et al. (2001). "Directed evolution of proteins by exon shuffling." Nature, 10:423-428	
		LIN, M, et al. (1997). "Binding of the Brucella abortus Lipopolysaccharide O-chain fragment to a monoclonal antibody." J. Biological Chem. 272(5):2821-2827	
		LIN, M, et al. (1996). "Modification of the Mycobacterium bovis extracellular protein MPB70 with fluorescein for rapid detection of specific serum antibodies by fluorescence polarization." Clinical and Diagnostic Laboratory Immunology, 3(4):438-443.	
		MENZEL, JE, et al (1991). "A method to differentiate between anti-C1q antibodies and C1q-binding immune complexes using collagenase-digested solid phase C1q." Journal of immunological Methods, 138:1654-171.	

Examiner Signature	Date Considered
--------------------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Complete if Known

Application Number	10/803246
Filing Date	March 18, 2004
First Named Inventor	Shanxiang Shen
Art Unit	TBA
Examiner Name	TBA
Attorney Docket Number	141938.00000

Sheet 4

of 4

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		MORGAN, A, et al. (1995). "The N-terminal end of the CH2 domain of chimeric human IgG anti-HLA-DR is necessary for C1q, Fc gamma RI and Fc gamma RIII binding." Immunology, 86(2):319-24	
		MORRISON, KL, et al. (2001). "Combinatorial alanine-scanning." Curr Opin Chem biol 5(3):302-307	
		PAINTER, RH (1984). "The C1q receptor site on human immunoglobulin G." Can J. Biochem Cell Biol. 62(6):418-25	
		REID, KB (1989). "Chemistry and molecular genetics of C1q." Behring Inst. Mitt (84):8-19	
		TRINDER, PK, et al (1993). "Functional domains of the human C1q A-chain." Behring Inst Mitt (93):180-8	
		WATSON, A, et al (2003). "Lighting up cells with quantum dots." BioTechniques, 34(2):296-303	
		WEIDMANN, GL, et al. (1993). "Establishment of reference ranges for thyrotropin, triiodothyronine, thyroxine and free thyroxine in neonates, infants, children and adolescents." Eur J. Clin Chem Clin Biochem 31(5):277-8	
		WONG, SH (1987). "Methodologies for antidepressant monitoring." Clin Lab Med 7(2):415-33	

Examiner
Signature

Date
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.